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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,021	09/02/2003	Michael John Collins JR.	1700.133	2020

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EXAMINER	
VAN, QUANG T	

ART UNIT	PAPER NUMBER
3742	

DATE MAILED: 03/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/605,021	COLLINS ET AL.	
	Examiner	Art Unit	
	Quang T Van	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5 and 7-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *19-30* is/are allowed.

6)☒ Claim(s) *1-3,5 and 7-16* is/are rejected.

7)☒ Claim(s) *17 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Withdrawal of Allowable Subject Matter

1. The indicated allowability of claims 6-10 is withdrawn in view of the newly discovered reference(s) to Greene et al (US 6,288,379) and Hayes et al (US 6,744,024). The Examiner is regretted for any inconvenient.

Claim Objections

2. Claims 13 and 14 are objected to because of the following informalities: "said ball valve," recited in line 1 has no antecedent basis in the claims and preceding claims. Correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, the term "said pump comprises a peristaltic pump" recited in lines 1-2 is considered inconsistent with the term "a pump selected from the group **consisting of** diaphragm pumps and pneumatic pumps" recited in claim 1, lines 10-11. The transitional phrase "consisting of", excludes any element, step, or ingredient not specified in the claim. *In re Gray*, 53, F .2d 520, 11 USPQ 255 (CCPA 1931). In this case, since in claim 1, the term "a pump selected from the group **consisting of** diaphragm pumps and pneumatic pumps" which is already specified the group type of pumps and no other type of pump can be claimed. Correction is required.

. Further, for more information about Transition phrase, Applicant is suggested to see MPEP chapter 2111.03.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 3, 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp (US 5,672,316) in view of Greene et al and Edwards et al (US 6,273,886). Knapp discloses a microwave-heatable pressure reactor comprising a microwave source (24) for generating electromagnetic radiation in the microwave frequencies; a microwave cavity (1) in a wave communication with said source for exposing compositions placed therein to microwave radiation; a microwave-transparent pressure resistant reaction vessel (10) in said cavity (1); a source reservoir for starting materials and related compositions (5,6,14); a pump (4, 7) in communication with said source reservoir (5, 6, 14) for pumping heterogeneous or highly viscous materials from said source to said reaction vessel (10); and pressure-resistant valve (8) between said pump (4, 7) and said reaction vessel (10) for isolating said reaction vessel (10) from said pump (4, 7) and said source (5,6,14) during application of microwave energy to compositions in said vessel (10) and from any resulting high pressures generated therein. However, Knapp does not disclose means for adjusting microwave power

applied from said source to a cavity and a pump selected from the group consisting of diaphragm pumps and pneumatic pumps. Greene discloses means for adjusting microwave power applied from a source to a cavity (see abstract). Edwards discloses a pump selected from the group consisting of diaphragm pumps and pneumatic pumps (col. 36, lines 30-35). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize, in Knapp, means for adjusting microwave power applied from a source to a cavity as taught by Greene in order to control microwave power apply to the cavity, and a pump selected from the group consisting of diaphragm pumps and pneumatic pumps as taught by Edwards in order to deliver fluid to the vessel.

7. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp (US 5,672,316) in view of Greene et al and Edwards et al (US 6,273,886) and further in view of Fagrell et al (US 6,614,010). Knapp/Greene/Edwards disclose substantially all features of the claimed invention except said cavity is selected from the group consisting of single mode and dual mode. Fagrell discloses a cavity is selected from the group consisting of single mode and dual mode (col. 2, lines 45-47). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize, in Knapp/Greene/Edwards, a cavity is selected from the group consisting of single mode and dual mode as taught by Fagrell in order to provide a high efficiency and uniform energy distributions.

8. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp (US 5,672,316) in view of Greene et al and Edwards et al (US 6,273,886) and

further in view of Fuhrmann et al (US 3,917,699). Knapp/Greene/Edwards disclose substantially all features of the claimed invention except said pressure-resistant valve being a ball valve. Fuhrmann discloses a pressure-resistant valve being a ball valve (col. 6, line 66). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize, in Knapp/Greene/Edwards, a pressure-resistant valve being a ball valve as taught by Fuhrmann in order to withstand the high pressure in the system.

9. Claims 1, 3-4 and 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp (US 5,672,316) in view of Hayes et al (US 6,744,024) and Edwards et al (US 6,273,886). Knapp discloses a microwave-heatable pressure reactor comprising a microwave source (24) for generating electromagnetic radiation in the microwave frequencies; a microwave cavity (1) in a wave communication with said source for exposing compositions placed therein to microwave radiation; a microwave-transparent pressure resistant reaction vessel (10) in said cavity (1); a source reservoir for starting materials and related compositions (5,6,14); a pump (4, 7) in communication with said source reservoir (5, 6, 14) for pumping heterogeneous or highly viscous materials from said source to said reaction vessel (10); and pressure-resistant valve (8) between said pump (4, 7) and said reaction vessel (10) for isolating said reaction vessel (10) from said pump (4, 7) and said source (5,6,14) during application of microwave energy to compositions in said vessel (10) and from any resulting high pressures generated therein. However, Knapp does not disclose means for adjusting microwave power applied from said source to a cavity and a pump selected from the group

consisting of diaphragm pumps and pneumatic pumps. Hayes discloses means for adjusting microwave power applied from said source to a cavity (col. 6, lines 23-40). Edwards discloses a pump selected from the group consisting of diaphragm pumps and pneumatic pumps (col. 36, lines 30-35). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize, in Knapp, means for adjusting microwave power applied from a source to a cavity as taught by Hayes in order to control microwave power apply to the cavity, and a pump selected from the group consisting of diaphragm pumps and pneumatic pumps as taught by Edwards in order to deliver fluid to the vessel.

10. Claims 17-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 19-30 are allowed.

12. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not show or suggest a combination of a second source reservoir for starting materials in fluid communication with said multi-port valve for providing said reaction vessel with a second set of starting materials and a product reservoir in fluid communication with said multi-port valve for collecting reaction products from said reaction vessel as recited in claims 17-18; and the step of releasing pressure from the vessel following desired completion of the chemical reaction, and pumping the reaction products of the discrete portion from the vessel at ambient

pressures of between about atmospheric pressure and about 30 PSI following the pressure release as recited in claims 19-30.

Response to Amendment

13. Applicant's arguments with respect to claims 1-3, 5, and 7-30 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T Van whose telephone number is 571-272-4789. The examiner can normally be reached on 8:00Am 7:00Pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QV
February 22, 2005

Quang T Van
Primary Examiner
Art Unit 3742